Design Technology Year 7 Long Term Plan

Key: Recap/Retrieval
Rigour (Vocabulary/Disciplinary knowledge/Reading/Careers)
Cultural Capital/SMSC
Numeracy
Cross Curricular

Rationale (with end points): By the end of year 7 students will be able to use secondary research to aid the design process and identify work of others to inform the design criteria. Understand and explain information on a client's needs and wants. Create a basic specification using ACCCESS FM to inform design decisions. Communicate *creativity* and i*magination* when producing a range of designs with a degree of development. Use technical language in annotation.
Develop designs in 2D and 3D using appropriate CAD packages. Select materials and components suitable for the outcome. Understand how to use tools and machinery safely. Develop *independent* decision-making and problem solving through *iterative* design. Demonstrates the ability to produce a working outcome with some consideration of finish. Evidence, well ordered evidence of making through a diary or photos. Evaluate the final outcome against the design specification showing clear strengths and areas to develop. Test and evaluate considering the views of the client and other interested groups. Consider how the product may fit into a real world scenario. Perform a range of tests to evaluate how materials are *strengthened, stiffened* and *reinforced* and apply to a range of materials to evaluate effectiveness. Understand using examples how mechanical systems are used [for example, *gears, pulleys, cams, levers* and *linkages]*. Understand and use electrical systems in their products [for example, *series circuits* incorporating: *switches, bulbs, buzzers* and *motors*]

Term	Topic	Knowledge	Skills **Complex activity:** **Writing genre:**	Reading /wider reading
Autumn T1 **Project 1** ******Summative*	Initial Assessment	• Understanding of pupils Prior Knowledge	The Assessment covers: Creating a Brief, Product analysis, materials and their properties, Design Question	The Look of the Century: Design icons of the 20th Century: Michael Tambini

Assessment dates TBC	Health & Safety in the Workshop	• Understanding how to work safety in the workshop		
	Resistant Materials – Wood 1	• Understand the origins, sources and applications of wood		
	Resistant Materials – Wood 2	• Understand the origins, sources and applications of wood • How to sketch and render a product to look like wood. • Weekly recap (Formative Test)	**Complex activity: Perspective Drawing (Preparation for CAD)**	
	Research and Product Analysis	• Understand and explain clients' needs and wants. • Understand Form, Fit and Function	**Writing genre:' Understanding the clients needs'** **(*Literacy focus*)**	
	Writing a Specification	• Understand how to write a specification using ACCESS FM		
	Design Ideas 1	• Apply research and specification to produce a range of creative design ideas		

	Design Ideas 2	• Develop design ideas with annotation and discussion. • Weekly recap (Formative Test)	**Complex activity: Technical Drawing/ Projections** **(Preparation for CAD/*Numeracy focus*)**	
	Computer Aided Design	• Introduction to CAD software	**Writing genre:' The impact of Technology'(*Literacy focus /SMSC focus)***	
Autumn T2	Computer Aided Design	• Development of CAD skills		
	Summative Assessment (DD 1)			
	Practical Making	• Develop independent decision-making and problem solving through iterative design. • Develop a quality product using on-going evaluation • Produce a well ordered evidence of making through a diary or photos. • Weekly recap (Formative Test)		
	Practical Making			
	Practical Making			
	Practical Making			
	Evaluation	• Evaluate the outcome against the design specification showing		

		clear strengths and areas to develop.		
Spring T1 **Project 2**	Resistant Materials – Polymers 1	• Understand the origins, sources and applications of polymers		**iPlayer** iGenius How Steve Jobs Changed the World https://www.youtube.com/watch?v=VdRvV1hlYfQ
	Resistant Materials – Polymers 2	• Understand the origins, sources and applications of polymers • **Weekly recap (Formative Test)**	**Complex activity: Quality Assurance Assessment (Progressive Finishing)**	
	Research and Product Analysis	• Understand and explain clients' needs and wants. • Understanding scales of production	**Writing genre:' Understanding how products are manufactured commercially' (*Literacy focus/Real World focus*)**	
	Writing a Specification	• Developing a more detailed specification using ACCESS FM		
	Design Ideas 1	• Apply research and specification to produce a range of creative design ideas		
Spring T2	Design Ideas 2	• Develop design ideas with annotation and discussion.	**Complex activity: Presentation of Design Ideas** **(Literacy/Oracy Focus)**	

	Summative Assessment (DD 2)			
	Computer Aided Design	• Development of CAD skills		
	Computer Aided Design	• Development of CAD skills		
	Practical Making	• Develop independent decision-making and problem solving through iterative design. • Develop a quality product using on-going evaluation • Produce a well ordered evidence of making through a diary or photos. • Weekly recap (Formative Test)		
	Practical Making			
Summer T1	Resistant Materials – Metal 1	• Understand the origins, sources and applications of metal		
	Resistant Materials – Metal 2	• Understand the origins, sources and applications of metal • Weekly recap (Formative Test)	**Complex activity: Materials Testing (Mathematics/Science Cross-curricular)**	

	Practical Making	• Develop independent decision-making and problem solving through iterative design. • Develop a quality product using on-going evaluation • Produce a well ordered evidence of making through a diary or photos.		
	Summative Assessment (DD 3)			
	Practical Making	• Develop independent decision-making and problem solving through iterative design. • Develop a quality product using on-going evaluation • Produce a well ordered evidence of making through a diary or photos. • **Weekly recap (Formative Test)**		
	Practical Making		**Writing genre:' Sustainable design' (*Literacy focus/Real World focus*)**	
Summer T2	Practical Making			
	Practical Making			
	Practical Making			
	Practical Making			
	Evaluation	• Evaluate the outcome against the design specification showing		

		clear strengths and areas to develop.		
	Summative Assessment (DD 4)			
	Technical Skills Development	• Preparation for Year 8		
	Technical Skills Development	• Preparation for Year 8	**SUMMER PROJECT - Writing genre:' Complex Machines'** Interleaving)	